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NOTES AND COMMENTS.

AN OPEN LETTER.

THE policy I have outlined in my article "How to Attack the Tariff," in this number of THE REVIEW, has already been received with great favor by journals representing the business industries of the country. It is conservative in its methods, and will not alarm any legitimate industries or tend to embarrass production or trade of any kind. On the contrary, it is believed that all industries will be promoted and general prosperity will result from the adoption of this policy.

It has the advantage of being easily comprehended. Those who have paid but little attention to economic questions will have no difficulty in comprehending the method of attack or of understanding the results which will follow. It has the further advantage of permitting a short session of Congress, and thus enabling Representatives to return to their constituents at the earliest time practicable. It will enable the House to fully map out and determine its line of policy before the meeting of the National Democratic Convention, so that confusion and uncertainty will be prevented, and the platform of the party which may be adopted at the National Convention can be in perfect harmony with the policy of the Democratic Representatives in Congress.

The Committee on Ways and Means is composed of fifteen Representatives, eleven of whom, including the five Republicans, reside in Northern States. No charge of Southern sectionalism can be alleged or maintained against this committee, or against any measure that it may recommend. The great manufacturing and producing States of the country are represented, and every measure produced will have in view the promotion of the best interests of the country, both manufacturing and agricultural.

WM. M. SPRINGER.

THE FLOUR OF THE FUTURE.

WHAT part has science in the making of bread? To what extent has this staple article of food been improved and benefited by the immense strides made in scientific knowledge, applicable to almost every other article? There seems a great lack of knowledge of the proper composition and nutritious qualities of flour; of the process of fermentation; of the generating of gases in baking; of the effect of the absence or superabundance of any certain ingredient in bread. It is true that the bread of this century is whiter than that of our forefathers; it may be lighter, from the addition of artificial baking-powders and similar compounds; but is it better, more

wholesome, nutritious, and digestible? Compared with the making and the composition of bread, which everybody consumes, there is ten times as much science employed in the making of beer. Recently Edward Atkinson, of Boston, whose pursuit of economical problems is a national advantage, said :

“What is the amount of scientific labor and application to-day bestowed on the proper regulation of the fermenting process in the brewing of beer? We all know that every brewer of any prominence has for his guidance a chemical laboratory; that the practical men intrusted with the management and superintendence of the process are picked and selected; have great experience, thorough training, and can command the highest remuneration for their work, when well performed. Millions of dollars per year are expended in the effort to make the beer as palatable as possible, and to insure a perfect uniformity and precise quality of the same.”

In civilized Germany, the man who should venture to adulterate or even dilute beer goes to prison, followed by disgrace and the imprecations of his fellow citizens. The man who should take it into his head to adulterate bread might do so with impunity, as long as he avoids introducing poisonous substances.

The demand has been made for white bread; fashion calls for it; the millers have complied. Mechanical skill has come to their assistance, and every part of the wheat which would tend to darken the flour is being removed with a precision and thoroughness which are simply wonderful. But does this tend to make the bread better? Does it give the workman a greater return for his hard-earned loaf? Does this refined milling process give to the convalescing invalid, to the growing child, more strength and nutriment than did the old-fashioned dark bread? The answer to the foregoing questions is decidedly in the negative. Indeed, on the other hand, it is impossible to estimate the injury done by the elimination of the most valuable constituents of the grain. A prominent English physician, when discussing this question, has recently said :

“Wheat and water contain all the elements necessary for man, and for the hard-working man, too. Where is the man that can exist on our present white bread and water? There is an old joke about doctors being in league with undertakers; it would rather appear as if the millers and bakers were in the doctors' pay, as if, were it not for them, and for the white bread they are so zealous in producing, the doctors would have less to do. Separating the bran from the flour became fashionable at the beginning of the present century. This fashion created the dental profession, which, with its large manufacturing industries, has grown up within the last two generations. It has reached its present magnitude only because our food is systematically deprived of lime, of salts and phosphoric acid, the creators of nerve bone, and tissue, which especially are so signally absent from our modern white bread.”

What we need is a reversal of the opinion which demands a white, starchy flour. We further need a milling process which will grind the whole berry of the wheat to such fineness that the grain will not act as an irritant on the membrane of the stomach and bowels. It is well known that the germ of the wheat contains a high percentage of ash and phosphoric acid, and also fat; indeed, the germ contains almost all the fat of the grain, and it therefore becomes one of the most important elements of food. The slight discoloration of the flour which is caused by its presence has, however, condemned it, and in the modern system of dressing white flour it is discarded. For much the same reason the cellulose and the cerealine, which are part of the bran, are also unadvisably cast out. This cerealine is one of the most

important of the soluble albumenoids in respect to the energy with which it attacks the starch of the grain and converts it into a species of sugar, called maltose or dextrose. It also has a diastatic action, which sets up a ferment wherever it is present, thus largely assisting in the digestion of other articles with which it comes in contact. It acts on the food much in the same way as the saliva or gastric juice. It is, in fact, one of nature's wonderful aids to digestion.

In spite of this, and of all the dyspeptic and constipated tendencies of our people, fashion has refused the bran a place in our daily dietary. We endeavor to replace the agencies of nature by a stimulating diet, forcing the heart to an unnatural action, or, if we are too poor to afford this, we are compelled to let the craving of the system go unheeded, and receive the punishment which is always meted out for transgressions against the laws of nature, by reduction of mental and physical vitality, which in due course of time is transplanted in the coming generations. Too much importance cannot be given to the serious mistake at present committed in discarding a considerable percentage of the nutritious elements in the grain, and especially of the agencies provided by nature to enable us to properly digest and absorb the purely nutritious portions of the wheat.

Attempts have been made in the United States to introduce a more rational and digestible flour, but they have all stranded against the unreasonable demands of the consumers for white flour and bread, and against the disinclination of leading millers and flour merchants to combat the prejudice and promote reform. It has, however, remained for Great Britain, so often foremost in practical common-sense and rational application of the results arrived at by theorizing science, to lead in this reform. In 1890 a company was formed in London for the manufacture of whole-wheat meal. It was a small beginning, but the results have been such that, within a comparatively short space of time, large numbers of leading bakers have commenced furnishing whole-wheat-meal bread and biscuits to a rapidly increasing host of consumers; sub-companies are being formed in the different cities, and sales have reached an imposing figure.

The process used in the manufacture of whole-wheat meal is novel, and, as originally carried out, was briefly described in the issue of *The American Miller* for March, 1891. The iron mill used is of exceeding simplicity, and acts by creating two exceedingly powerful revolving air-currents, by which the grains of wheat are thrown against each other, thus being reduced by attrition—bran, germ, and kernel—to a flour which, as soon as fine enough, is floated off on a rising air-current and deposited in the bin above the packer, without the necessity of submitting it to any bolting or sifting process. The grinding is done at low temperature; the meal is perfectly dried and aerated by the circulating air-currents, and the whole grain is ground. Thus all the elements present in the wheat are also found in their natural proportions in the meal. The bread baked from this meal is not white, but assumes a warm golden-brownish tint. It is free from the rasping grittiness of the imperfectly-ground Graham bread, the bran in which, never having been thoroughly pulverized, acts as an irritant upon the delicate digestive apparatus. The bread made from whole-wheat meal has a richer, more palatable taste than ordinary wheat bread. Certainly its constituents, being those provided by nature, are calculated to assist the digestive powers, and especially to counteract any constipated tendencies. For the health of the whole people, as well as upon grounds of economy, it would

appear to be a duty to better utilize the nutritious and digestive substances in the wheat.

This question of proper food is one that thinking physicians might discuss. If it is a fact that, by a simple reform in the grinding and preparation of an article of such universal use as flour, a great benefit can be effectually secured, no greater good could be achieved than by encouraging such a reform. It is important to create a popular feeling strong enough to carry reform and improvement over the strong fortifications which prejudice, ignorance, and habit have formed around the present starchy compound which we call wheat bread.

ERASTUS WIMAN.

THE TOMBS IN WESTMINSTER ABBEY.

THE time is within measurable distance when we may expect to find hung on the tower of Westminster Abbey a placard bearing the legend seen on the Paris omnibuses when they are full—"Westminster Abbey is *complet*." To be precise, it is almost full of more or less illustrious dead, and for generations to come the accommodation that remains must needs be sparingly dealt with. The Royal Commission which sat this year (1891) to inquire into the matter discovered that by masterly contrivance, making use of every spot available for the purpose, ninety or even ninety-five interments might yet take place. If burials under this sacred roof-tree went on at the ancient scale, this accommodation would be speedily exhausted. From a search through old records, happily kept with infinite care at the Abbey, it appears that in ten years from 1681 to 1690 there were one hundred burials in the Abbey itself, whilst one hundred and twenty-five more or less obscure persons were allowed to rest within the precincts. A hundred years later, in the corresponding decennial period, there were but thirty-one. Not that there were fewer great people to bury, but that there were fewer mediocrities upon whom the honor of sepulture in Westminster Abbey or its precincts was bestowed.

"Westminster Abbey or glorious victory!" Nelson cried when leading the boarders at Cape St. Vincent on to the Spanish three-decker "San Josef." It is not precisely the kind of remark in such circumstances one would expect off the transpontine stage. But Colonel Drinkwater Bethune declares the words were used, and the Colonel was there at the time. However that be, the phrase connected with Nelson's name shows how high is reckoned the distinction of being buried in Westminster Abbey. And yet even within the present century the cloisters and the Abbey have been used as a place of sepulture for people living obscure lives in humble circumstances. In jealously limiting admission to the illustrious dead, the Abbey authorities are reverting to the earliest intention of its founder and his successors. The first burial in the Abbey was that of Edward the Confessor, who built the earlier church with the special object of serving as a tomb for himself. The King was buried near the altar, and close by his grave on Christmas Day, 1066, William the Conqueror was crowned, and there on the selfsame spot every King or Queen who has since reigned in England has received the rite of coronation. At first only members of the royal family were buried at Westminster, and when Richard the Second ordered the interment, within the chapel of the Confessor, of John of Waltham, Bishop of Salisbury, his trusty minister, a thrill of horror ran through